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[REDACTED]

February 19, 1982

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[REDACTED]
National Intelligence Council
CIA
Washington, D. C. 20505

Dear [REDACTED]

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Confirming our conversation on Thursday, I have enclosed a listing of the recognized Turbine Manufacturers throughout the world that produce equipment that could be used for Gas Compression Drivers. We have tried to show the model and size by horsepower rating of the Drivers they currently produce and market to confirm the information that was covered verbally in our discussions in the Wednesday meeting.

In addition, we have also included a list of Pipeline Compressor Manufacturers with the same basic type of information for your file.

You will note that in the case of both Turbines and Compressors, we have not listed the Russian manufactured units. Our data would coincide with the data that was presented by [REDACTED] in our meeting on Wednesday and therefore I have not included Russia in our current listings. I hope this information will be of help to you as support for the data that was presented and discussed in the meeting.

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Sincerely,

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[REDACTED]
President

[REDACTED]
Enclosures

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[REDACTED] OHIO [REDACTED]

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TURBINE MANUFACTURERS

<u>Manufacturer</u>	<u>Location</u>	<u>Model</u>	<u>ISO HP Rating</u>
GE and Associates	Schenectady, N.Y.	M1502	5050
GE Associates Include:		M3142	14600
Nuovo Pignone	Florence, Italy	M5252	26250
John Brown	Scotland	M5352	35000
Thomassen	Holland	7LM2500	27500
AEG-Kanis	West Germany		
KVAENER-Brug	Norway		
Hitachi	Japan		
IHI (Ishikawajima	Japan		
-Harima Heavy Industries)			
Westinghouse	Hamilton, Ontario	CW182MB	18500
		CW352MB	39800
Ingersoll-Rand	Philipsburg, N.J. and U.K.	GT22	4250
		GT52	15800
		GT61	26500
		GT62	29150
Dresser-Clark	Olean, N.Y.	DC990	6000
	France	DJ125R	15900
	Canada -	DJ270G	26800
	Lethbridge, Alberta	DJ290R	29200
Cooper Energy Services	Mount Vernon, Ohio	Coberra 2348	16150
	Stratford, Ontario,	Coberra 3045	16350
	Liverpool, U.K.	Coberra 6056	30550
GEC	Whetstone, Leicester, U.K.	EAS 133	16290
		ERB 124	28720
		ELM 125-2	26380
Sulzer	Zurich, Switzerland	S7	14200
		Primo 12	16350
		Primo 21	28140
Stal-Laval	Sweden	GT35	16800
		CP3	16000
Solar	San Diego, Ca.	Saturn	1140
		Centaur	3830
		Mars	10600
(1) Detroit Diesel	Indianapolis,	501KC	4330
Allison	Indiana	571KC	7300

Turbine Manufacturers
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<u>Manufacturer</u>	<u>Location</u>	<u>Model</u>	<u>ISO HP Rating</u>
Ruston	Lincoln, U.K.	TA1750	1875
		TB5000	4900
		Tornado	8500
Hispano-Suiza	Paris, France	THM 1103	5900
		THM 1203	7510
		THM 1304	10860

Note: Turbine model sizes listed are representative of sizes used in transmission service. Manufacturers offer additional models within this same power range.

- (1) Allison works with Ingersoll-Rand and Creusot-Loire as OEM's. Allison also sells through a worldwide distributor network.

Other turbine manufacturers exist, however, Cooper Energy Services does not consider these firms competitors in the natural gas compression market. The following is a list of firms included in this category: Alsthom-Atlantique, Brown Boveri - Turbomachinery, Fiat Aviazione, Fiat TTG.

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PIPELINE COMPRESSOR MANUFACTURERS

<u>Manufacturer</u>	<u>Location</u>	<u>Compressor Size</u>	
		<u>Power-HP</u> (000)	<u>Flange Diameter</u> (inches)
Cooper Energy Services	Mt. Vernon, Ohio Stratford, Ont., Can. Liverpool, U.K. Licensees: C-L France KHI Japan	3-40	14,20,24,30,36,42 Axial inlet - 36
Ingersoll-Rand	Phillipsburg, N.J. Wythenshaw, U.K.	3-40	16,24,30,36
Dresser-Clark	Olean, N.Y.; Canada LeHavre, France Licensees: Mitsubishi - Japan DeMag (per job contracts for USSR)	3-40	16,24,30,36,42 Axial inlet - 42
DeLaval	Trenton, N.J. Hengel0, Holland (50:50 J.V. with Stork)	3-40	16,20,24,30,36 (Design available for 42)
Nuovo Pignone	Florence, Italy	3-40	16,20,24,30,36 (Design available for 42)
Hispano-Suiza	Paris, France	6-14	16,20,24 (Marketed with H-S gas turbines only)
Solar	San Diego, Ca.	1-11	8,12,16,24 (Marketed only with Solar gas turbines)
DeMag	Duisburg, W. Germany -Per job contracts with Dresser for USSR projects	15-40	24,36
	-Modified barrels of own design (marketing activity to AEG and Ruhrgas only)	15-40	24,30,36
GHH	Oberhausen, W. Germany -Modified barrels of own design (no marketing activity past 5 years)	5-40(est)	16,30,36 (est)
Borsig	Berlin, W. Germany -Modified barrels of own design (sold one unit to Nova-Canada as part of their waste heat package. No other visible marketing activity)	5-20(est)	16,20,24(est)

Pipeline Compressor Manufacturers
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<u>Manufacturer</u>	<u>Location</u>	<u>Compressor Size</u>	
		<u>Power-HP</u> (000)	<u>Flange Diameter</u> (inches)
Sulzer	Zurich, Switzerland -Modified barrels, own design	5-30(est)	12,16,24 (est) (Sulzer gas turbines only)

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